



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/781,948

02/20/2004

Yoshikumi Miyamoto

4496-3

9702

23117

7590

01/10/2007

NIXON & VANDERHYE, PC

901 NORTH GLEBE ROAD, 11TH FLOOR

ARLINGTON, VA 22203

EXAMINER

ONEILL, KARIE AMBER

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/781,948	<b>Applicant(s)</b> MIYAMOTO ET AL.	
	<b>Examiner</b> Karie O'Neill	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2006.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Applicant's amendment filed on October 16, 2006, was received. Claim 1 was amended. Claims 7-8 have been withdrawn from consideration. Claims 9-10 have been added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on July 21, 2006.

### ***Claim Rejections - 35 USC § 102/ 35 USC § 103***

3. The claim rejections of Claims 1-6 under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakai (JP 09-213338) have been withdrawn due to the amendment of Claim 1.

4. Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamashita et al. (US 6,387,564 B1).

With regard to Claim 1, Yamashita et al. disclose a non-aqueous electrolyte secondary battery having a coiled electrode assembly made through the multi-layer winding (column 9 lines 31-38) of: a positive electrode having a metallic collector, made of aluminum foil (column 16 lines 10-11), coated with a positive electrode mixture, composed of a positive electrode active material that occludes and liberates lithium ions (column 8 lines 18-20)); a negative electrode having a metallic collector, made of copper foil (column 16 lines 23-24), coated with a negative electrode mixture, composed

Art Unit: 1745

of a negative electrode active material that occludes and liberates lithium ions (column 8 lines 26-31); and a separator interposed between the positive electrode and the negative electrode (column 3 lines 6-10), wherein the positive electrode has an aggregation layer of insulating material on a portion of the positive electrode metallic collector uncoated with the positive electrode mixture and opposed to a part of the negative electrode coated with the negative electrode mixture through the separator (column 3 lines 12-20). Figure 29 shows active material layers 1b and 2b being formed on both surfaces of current collectors 1a and 2a, and insulating material particles 3A and 3B being formed only on one surface of the active material layers (column 25 lines 32-37). The limitation "which has increased adhesiveness at 60 to 120°" is given little to no patentable weight because this is considered to be inherent properties of the adhesive material being used.

Claim 1 has been construed as a product-by-process claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since Yamashita's non-aqueous electrolyte secondary battery is similar to that of the Applicant's, Applicant's process is not given patentable weight in this claim. In Claim 1,

Art Unit: 1745

"hot melt coated" is considered a process by which the resin is coated on to the collector.

With regard to Claim 2, Yamashita et al. disclose the insulating material particles having a thickness ranging from  $1\mu\text{m}$  to  $100\mu\text{m}$  and, more preferably, from  $10\mu\text{m}$  to  $50\mu\text{m}$  (column 6 lines 15-18).

With regard to Claim 3, Yamashita et al. disclose the insulating material covering part of the positive electrode mixture (column 3 lines 12-18).

With regard to Claim 4, Yamashita et al. discloses the insulating material particles having a thickness ranging from  $1\mu\text{m}$  to  $100\mu\text{m}$  and, more preferably, from  $10\mu\text{m}$  to  $50\mu\text{m}$  (column 6 lines 15-18) and also covering part of the positive electrode mixture (column 3 lines 12-18).

With regard to Claim 5, Yamashita et al. disclose the positive electrode mixture layer covering a part of the insulating layer, with the entire surface of the positive electrode mixture layer being of uniform thickness formed of a slurry coated on the surface of the positive electrode current collector with a thickness of  $15\mu\text{m}$  (column 16 lines 10-15).

With regard to Claim 6, Yamashita et al. disclose the insulating material particles having a thickness ranging from  $1\mu\text{m}$  to  $100\mu\text{m}$  and, more preferably, from  $10\mu\text{m}$  to  $50\mu\text{m}$  (column 6 lines 15-18) and the positive electrode mixture layer covering a part of the insulating layer, with the entire surface of the positive electrode mixture layer being of uniform thickness formed of a slurry coated on the surface of the positive electrode current collector with a thickness of  $15\mu\text{m}$  (column 16 lines 10-15).

With regard to Claim 9, Yamashita et al. disclose wherein the resin is selected from the group consisting of polyethylene and polypropylene (column 4 lines 1-2).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamashita et al. (US 6,387,564 B1), as applied to Claims 1-6 and 9 above, and in further view of Fuchizawa et al. (US 4,610,956).

Yamashita et al. disclose the non-aqueous electrolyte secondary battery in paragraph 4 above, including an adhesive material of polymethyl methacrylate, but do not disclose wherein said adhesive material is ethylene vinyl acetate copolymer, ethylene acrylate, or ethylene methacrylic acid.

Fuchizawa et al. disclose hot melt adhesives including polyolefins such as polyethylene, ethylene acrylate copolymers and polymethyl methacrylate series adhesives (column 6 lines 50-59). Polyethylene, polymethyl methacrylate and ethylene acrylate are considered functional equivalent compounds. Therefore, it would have

Art Unit: 1745

been obvious to one of ordinary skill in the art to substitute the polymethyl methacrylate compound for the ethylene acrylate compound disclosed by Fuchizawa et al..

### ***Response to Arguments***

7. *Applicant's principal arguments are:*

*(a) Yamashita et al. disclose a resin coating which would require a process of drying the active solvent after resin coating which would result in a more complicated manufacturing process and increase in environmental load.*

Examiner states:

(a) The process by which the resin is prepared and placed on the collector is not considered a critical part of the argument because the claims are drawn to a product.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1745

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DAH-WEI YUAN  
PRIMARY EXAMINER

Karie O'Neill  
Examiner  
Art Unit 1745

KAO